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Duration of suicide process among suicide attempters and characteristics of those providing window of opportunity for intervention

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ABSTRACT

Background: There is limited cross-cultural literature on the duration of suicide process among attempters. **Aims:** The primary aim was to assess the duration of suicide process among suicide attempters attending the Crisis Intervention Clinic. We also aimed to identify the characteristics of those who reported a longer duration for this process. **Methods:** In this retrospective record-based study, we collected the duration of the suicidal process from the records of all the suicide attempters evaluated over a 3-year period ($n = 319$). Attempters were divided into four groups based on the quartile value of the duration of the suicidal process. For analysis, the characteristics of those in the last quartile with suicide process time of >120 min ($n = 75$) were compared with those in the first three ($n = 244$). Those in the last quartile were considered to provide a window of opportunity for intervention. **Results:** The median time for the suicidal process was 30 min (interquartile range of 5 min to 120 min). Seventy-five (23.5%) subjects belonged to the fourth quartile (duration of suicide process >120 min). A significant proportion of them came from urban areas ($P = 0.011$), had a diagnosis of mood disorder ($P = 0.028$), had visited a health professional in the recent past ($P = 0.015$), and had lower rates of attempt under intoxication ($P = 0.005$). A lesser proportion of them showed problem-focused disengagement style of coping strategy ($P = 0.015$). **Conclusions:** The suicide process time among Indian suicide attempters is short. However, a quarter of them has suicide process duration of 2 h which provides some scope for intervention. Individual and community level interventions need further evaluation for their potential efficacy in preventing the progress of the suicidal process.

Key words: Intervention, prevention, suicide, suicide attempt, suicide process

Introduction

Suicidal ideas are common among the general population^[1,2] and may or may not culminate in a suicide attempt.^[3] The concept of suicidal process implies a progression from the emergence of ideas of harming self to the actual behavior of carrying out the suicidal act which may become a completed suicide or an attempted suicide depending on the subject's survival.^[4]

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Deisenhammer *et al.*^[5] reported that duration of this suicide process lasted only for 10 min or less in about 50% of the suicide attempters.

Current strategies for suicide prevention can be either selective aimed toward "at risk" population or universal at the community level.^[6] Intervention strategies as the part of secondary prevention involve reducing risk factors in those with a history of suicide attempt.^[7]

However, individual-level interventions to abort suicide attempt from the time of emergence of suicidal ideas are crucial.^[8,9] Knowledge of the average time of this

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suicidal process, during which abortive interventions can be carried out, will be of potential help but has not been evaluated systematically in our setting. Research findings from India suggest that majority of Indian subjects attempt suicide impulsively without much forethought.^[10,11] There can be a subset of subjects who show a longer duration of suicide process which may provide a window of opportunity for planning personalized interventions. Hence, this study aims to describe the duration of suicide process among suicide attempters attending a tertiary care center in South India and try to characterize those who show a longer duration of suicide process based on the empirical cutoff.

Methods

This study was conducted in a government-funded tertiary care cum teaching hospital in Southern India. The department of psychiatry in the hospital runs a weekly Crisis Intervention Clinic (CIC) since 2010. All subjects with suicide attempts, following medical stabilization, are referred to this clinic before discharge as part of hospital protocol. The clinic is manned by consultant psychiatrist, a postgraduate trainee resident, and a full-time social worker. Information is gathered from the subjects and their family members attending the clinic using a standard pro forma. This information helps in suicide risk assessment and planning management which consists of either or both pharmacotherapy and psychosocial interventions.

This study includes case records of clients evaluated consecutively at the CIC over a period of 3 years (July 1, 2010–June 30, 2013). Information was extracted from records about demographic data, methods and reasons of the attempt, suicide process time, and other relevant clinical data. Later includes information about recent life stressors in the past 1 year using presumptive stressful life events scale,^[12] about coping using Coping Strategies Inventory-Short Form,^[13] and adaptive functioning over the past 1 year using Global Assessment of Functioning,^[14] or through Social and Occupational Functioning Assessment Scale.^[15]

For the purposes of the study, the definition of suicide attempt as proposed by Silverman *et al.*^[16] was used. Those cases where the intent of suicide was not clear were excluded from the study. Information on suicidal process time, defined by Wasserman^[4] as time interval from emergence of suicidal ideas to the actual implementation of those ideas into a plan leading to the current suicide attempt, was recorded for each patient and was based on patient's self-recollection. Those

subjects who could not recollect this duration were excluded from the study.

The analysis was conducted using Statistical Package for Social Sciences (SPSS) - PASW Statistics for Windows, Version 18.0 (Chicago: SPSS Inc.). The time for the suicidal process was divided into four quartiles. The characteristics of the subjects in the last quartile (suicide process time >120 min) were compared to the characteristics of those in the first three quartiles. Nominal data were compared between two groups using Chi-square test while continuous data were compared using Student's *t*-test. Missing value imputation was not conducted as a part of the study. A *P* < 0.05 was considered statistically significant for all analyses.

Results

During 3 years (July 1, 2010–June 30, 2013), 347 subjects were evaluated at the CIC. Out of these, 319 case records were included in the analysis. We excluded 28 case records due to following reasons: Suicidal intent could not be established in 14, and time duration between emergence of idea and actual attempt could not be ascertained in another 14. The median suicide process time was 30 min (Interquartile range 5–120 min). Subjects were divided into four quartiles based on reported suicide process time. First, quartile had 96 (30.1%) subjects (suicide process time up to 5 min), second quartile had 71 (22.2%) subjects (suicide process time 6 min to 30 min), third quartile had 77 (24.1%) subjects (suicide process time 31 min to 120 min), and whereas the last fourth quartile had 75 (23.5%) subjects (suicide process time of >120 min or 2 h). Based on the consensus among investigators and after taking into account the distribution of data in our sample, an empirical cut point of >2 h was chosen as a reasonable period for any intervention to be feasible and effective at the individual level. Thus, those with suicide process time of > 120 min (fourth quartile) were deemed to provide a window of opportunity for intervention and were compared with subjects from other three quartiles for differences. The demographic characteristics of the groups are shown in Table 1. The two groups did not differ between each other except for a place of residence, with a greater proportion of urban subjects having suicide process time of >2 h (*P* = 0.011).

The comparison of clinical- and attempt-related variables between the groups is shown in Table 2. Plant poisons and prescription drugs were more commonly used as a method of a suicide attempt by subjects with suicide process time of >2 h, though this finding was not statistically significant (*P* = 0.071). A greater proportion

Table 1: Demographic characteristics of the groups

Variable	Suicide process time >2 h (n=75) (%)	Suicide process time ≤2 h (n=244) (%)	Comparison (P)
Age	26.6 (10.2)	27.4 (10.0)	t=0.653 (0.514)
Gender			
Male	37 (49.3)	133 (54.5)	$\chi^2=0.617$ (0.432)
Female	38 (50.7)	111 (45.5)	
Marital status			
Married	35 (46.7)	129 (52.8)	$\chi^2=0.886$ (0.642)
Not married	38 (50.6)	109 (44.7)	
Widow/divorced/ separated	2 (2.7)	6 (2.5)	
Education status	8.9 (4.1)	8.8 (4.6)	t=0.148 (0.882)
Occupational status			
Employed	39 (54.9)	126 (52.3)	$\chi^2=0.154$ (0.694)
Not employed	32 (45.1)	115 (47.7)	
Residence			
Urban	10 (13.3)	12 (5.0)	$\chi^2=6.403$ (0.011)*
Rural	65 (86.7)	229 (95.0)	
Family type			
Nuclear	50 (68.5)	160 (67.8)	$\chi^2=0.012$ (0.913)
Others	23 (31.5)	76 (32.2)	

*P<0.05. All values expressed as mean (SD) or frequency (percentage).

SD: Standard deviation

Table 2: Attempt and clinical characteristics

Variable	Suicide process time >2 h (n=75) (%)	Suicide process time ≤2 h (n=244) (%)	Comparison (P)
Reason of attempt			
IPR issue	40 (53.3)	159 (65.2)	$\chi^2=20.549$ (0.002)*
Physical illness	5 (6.7)	34 (13.9)	
Financial	6 (8.0)	23 (9.4)	
Love-related issues	12 (16.0)	15 (6.1)	
Academic	3 (4.0)	6 (2.5)	
Psychiatric disorder	6 (8.0)	5 (2.0)	
Others	3 (4.0)	2 (0.8)	
Attempt under intoxication	3 (4.0)	41 (16.8)	$\chi^2=7.909$ (0.005)*
Visit to health professional in the past 3 months	21 (28.0)	41 (16.8)	$\chi^2=5.975$ (0.015)*
Mood disorder	4 (5.3)	2 (0.8)	$\chi^2=6.486$ (0.028)*
Coping measures			
Problem-focused engagement	10.9 (4.3)	11.8 (4.0)	t=1.516 (0.131)
Problem-focused disengagement	11.5 (2.8)	12.6 (3.7)	t=2.451 (0.015)*
Emotion-focused engagement	10.5 (2.0)	10.9 (2.4)	t=1.186 (0.237)
Emotion-focused disengagement	10.8 (3.1)	10.1 (2.8)	t=1.768 (0.078)

*P<0.05. All values expressed as mean (SD) or frequency (percentage).

GAF: Global Assessment of Functioning, PLSES: Presumptive stressful life events scale, SOFAS: Social and Occupational Functioning Assessment Scale, SD: Standard deviation

of those with longer suicide process time reported love-related issues as triggers for the attempt. Subjects in

the same group were less likely to make suicide attempt under intoxication. It was also seen that subjects with longer suicide process time were more likely to have visited a health-care professional in the past 3 months before the current attempt. There were no differences in rates of the previous suicide attempts or family history of attempts between the groups. Although adjustment disorder was the most common diagnosis in both groups, ongoing mood disorders were significantly more common in subjects with suicide process time of >2 h. The functioning level and number of stressors did not differ across the two groups ($P = 0.231$ and 0.088 respectively), though coping methods showed differences in one of the domains. Among the coping strategies, problem-focussed disengagement type of coping was less common in subjects with longer suicide process time.

Discussion

More than half of the subjects in our sample (52.3%) had a suicide process duration of <30 min. This finding resonates with the only previous comparative study from Europe among suicide attempters in a setting similar to ours wherein the authors reported a short duration of the suicidal process (<10 min).^[5] The sample size of this European study was smaller than ours and essentially a referred sample. Hence, our study adds to the scanty cross-cultural literature in this area. The present record-based study also tried to identify the characteristics of individuals with suicide process time of >2 h. Such individuals are more likely to come from urban areas, have a diagnosis of mood disorders, are more likely to have visited a health professional in the recent past, and less likely to attempt under intoxication. Summarizing, these individuals provide a window of opportunity for intervention, but comprise only a quarter of suicide attempters.

Subjects from the urban background spend considerable time contemplating suicide and thus can provide a window of opportunity for intervention. These people were also more likely to have an underlying mood disorder and sought professional help more frequently before the attempt. As they have better access to mass media and technology, they can be targeted through these for stress reduction strategies and guidance on appropriate help seeking for health-related issues. However, it also raises the question of availability and accessibility of professional psychiatric help for a person hailing from a rural background who is contemplating suicide. Training of community gatekeepers for prompt recognition and management of such individuals may help to address this anomaly.

The most common triggers for attempt were interpersonal issues in general, though love-related issues found greater representation in the group with longer suicide process time. This suggests that individuals facing a crisis in their romantic relationships contemplate longer before making the attempt and are a possible target group for early intervention in suicide prevention. Providing help lines or teaching on how to deal with similar kind of stress during school mental health programs may be useful in this regard.

Patients with psychiatric disorders (particularly mood disorders) were represented more frequently in the group with longer duration of suicide process. Suicide attempts in India tend to be impulsive with no or shorter duration of suicide process, and concurrent psychiatric disorder is less common^[11,17] thus explaining significantly lesser prevalence of mood disorders in subjects belonging to the first three quartiles in our sample. It is interesting to note that majority of the suicide attempters including impulsive types experience suicidal thoughts before the attempt and experience the varying duration of suicide process.^[18] Hence, the presence of suicidal feelings before attempt constitutes an opportunity for intervention even for impulsive suicide attempters.

Subjects in the group with longer duration of suicide process seem to have a better health seeking attitude. This subset differs from the general view that those at suicide risk have poor help-seeking behavior.^[19] This, doubtless, suggests the importance of routine screening for suicide risk and the need to sensitize health care professionals from other specialties about the standard procedures used for suicide risk assessment and formulation.^[7]

When faced with a difficult or troublesome situation, problem- and emotion-focused disengagement are considered a better coping strategies. In the group with shorter duration of suicide process, a higher proportion of subjects used problem-focused disengagement, meaning a poor coping among this group compared to the other. Suitable coping skills enhancement strategies may therefore have a role in suicide prevention for such individuals.

To summarize, some general principles of suicide prevention can apply for individuals with longer duration of suicide process time. On an individual level, developing coping skills and promoting positive mental health may reduce the number of suicide attempts. From service delivery perspective providing crisis helplines, sensitization of general physicians about the need for routine assessment of suicide risk and providing gatekeeper training at the community level in the form

of village leaders can be helpful in early identification, and suicide prevention.

The limitations of the study include a collection of information about the suicidal process based on subjective reporting. Further, we have assumed that the suicidal process is a continuous one ending in an attempt; however, many view it as fluctuating.^[20] We did not inquire from subjects on strategies that would have been beneficial in aborting the suicide attempt, this would have given better information from the patient perspective.^[21] Our sample was limited to suicide attempters, and the results may not necessarily extrapolate to suicide completers. The findings of the study relate to a tertiary care center in India, and generalization to other settings should be done with caution.

Conclusion

The study suggests that the suicidal process is short among the majority of the Indian suicide attempters. Yet, a significant minority of such individuals provides a window of opportunity for intervention, and it is incumbent on the health-care professionals and policy makers to identify interventions which may prevent the attempt when the suicidal process is already ongoing.

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Conflicts of interest

There are no conflicts of interest.

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